AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A system for determining a bit error rate ~~of bits~~ in a digital communication system, comprising:

- a transmitting station;

- a receiving station having a decoder ~~(102)~~;

- the transmitting station arranged for transmitting a bit sequence to a receiving station;

- the receiving station arranged for receiving the bit sequence~~(S1)~~ ;

- the decoder ~~(102)~~ arranged for decoding one or more bits out of the received bit sequence;

- a plurality of look-up tables ~~(104, 105)~~ arranged for containing predetermined bit error rates related to ranges of soft output values;

~~characterised in that the system further comprises:~~

- a quantizer ~~(103)~~ being arranged for quantizing the received bit ~~(S2)~~;

- a switch ~~(106)~~ being arranged for selecting an output, ~~(S7, S8)~~ representing a Bit error Rate contribution, of one of the look up tables ~~(104,105)~~ out of the plurality of look up tables, the selection being based on the quantized bit ~~(S6)~~;

- a soft-output ~~(S5)~~ of the decoder ~~(102)~~ being arranged as an index to the plurality of look up tables ~~(104,105)~~ for retrieving a bit-wise bit error rate contribution to the bit error rate of a received bit sequence; and

- a summing and scaling device ~~(107)~~ being arranged for accumulating and averaging the bit-wise BER ~~(S9)~~.

2. (Currently Amended) The system as claimed in claim 1, wherein the lookup tables ~~(104,105)~~ are replaced by one or more processing devices, arranged for

providing accompanying values for the Bit Error Rate contribution ~~(S7, S8)~~ on input of the value of the soft output ~~(S5)~~.

3. (Original) The system as claimed in claim 2, wherein the processing device is a floating point processor.

4. (Original) The system as claimed in claim 1, wherein the decoder is a turbo-decoder.

5. (Original) The system as claimed in claim 1, wherein the decoding algorithm is the Maximum A Posteriori algorithm (MAP).

6. (Original) The system as claimed in claim 1, wherein the decoding algorithm is the Logarithmic Maximum A Posteriori algorithm (LOG-MAP).

7. (Original) The system as claimed in claim 1, wherein the decoding algorithm is the Maximum-Logarithmic-Maximum A Posteriori algorithm (MAX-LOG-MAP).

8. (Original) The system as claimed in claim1, wherein the decoding algorithm is the Soft Output Viterbi Algorithm (SOVA).

9. (Currently Amended) A receiving station system arranged for determining a bit error rate ~~of bits~~ in transmitted bit sequence, comprising:

-a decoder ~~(102)~~ arranged for decoding one or more bits out of the received bit sequence;

- a plurality of look-up tables ~~(104,105)~~ arranged for containing predetermined bit error rates related to ranges of soft output values ;

~~characterised in that the system further comprises:~~

- a quantizer ~~(103)~~ being arranged for quantizing the received bit ~~(S2)~~;

- a switch ~~(106)~~ being arranged for selecting an output ~~(S7, S8)~~ representing a Bit Error Rate contribution, of one of the plurality of look up tables ~~(104,105) out of the a plurality of look up tables~~, the selection being based on the quantized bit ~~(S6)~~;

- a soft-output ~~(S5)~~ of the decoder ~~(102)~~ being arranged as an index to the plurality of look up tables ~~(104,105)~~ for retrieving a bit-wise bit error rate contribution to the bit error rate of a received bit sequence;

- a summing and scaling device ~~(107)~~ being arranged for accumulating and averaging the bit-wise BER ~~(S9)~~.

10. (Original) The receiving station system as claimed in claim 9, wherein the receiving station system is a mobile unit within a wireless communication system.

11. (Original) The receiving station system as claimed in claim 9, wherein the receiving station is a radio base station within a CDMA communication system.

12. (Currently Amended) The receiving station system as claimed in claim 9 ~~claims 9,10 and 11~~, wherein the receiving station system operates in a wireless communication network according to a GSM, Bluetooth, or Code Division Multiple Access (CDMA) standard.

13. (Currently Amended) A method for determining a bit error rate ~~of bits~~ in a digital communication system comprising a transmitting station and a receiving station having a decoder ~~(102)~~, comprising the steps of:

- transmitting a bit sequence to the receiving station by the transmitting station;

- receiving the bit sequence by the receiving station;

- decoding a bit out of the received bit sequence by the decoder ~~(102)~~, ~~characterised in that the method further comprises the steps of:~~

- quantizing the received bit ~~(S2)~~ by a quantizer ~~(103)~~ ;

- selecting an output ~~(S7, S8)~~ of a look up table, the look up table being one ~~out~~ of a plurality of look up tables ~~(104,105), by a switch (106)~~, the selection being based on the quantized bit ~~(S6)~~;

- indexing the selected look up table ~~(104,105)~~, for obtaining a bit-wise bit error rate of the received bit sequence, by the soft-output ~~(S5)~~ of the decoder~~(102)~~ ;

- accumulating and averaging the bit-wise BER ~~(S9)~~ of the received bit sequence by a summing and scaling device ~~(107)~~, resulting in the estimated average BER~~(S10)~~.

14. (Original) The method as claimed in claim 13, wherein the decoding method is turbo-decoding.

15. (Original) The method as claimed in claim 13, wherein the decoding algorithm is the Maximum A Posteriori algorithm (MAP).

16. (Original) The method as claimed in claim 13, wherein the decoding algorithm is the Logarithmic Maximum A Posteriori algorithm (LOG-MAP).

17. (Original) The method as claimed in claim 13, wherein the decoding algorithm is the Maximum-Logarithmic-Maximum A Posteriori algorithm (MAX-LOG-MAP).

18. (Original) The method as claimed in claim 13, wherein the decoding algorithm is the Soft Output Viterbi Algorithm (SOVA).